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Effects of New Zealand General Elections on Stock Market Returns

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This paper examines stock returns under both National and Labour governments in New Zealand, offering further insight into the existence of the political cycle effect. Findings indicate the existence of a political cycle effect in stock returns, consistent with a number of recent studies performed within both Australia and New Zealand. New Zealand's right-of-centre National party are found to be associated with significantly higher stock returns during their terms in office than their left-of-centre counterparts, the Labour party. Our findings add to a growing body of literature, particularly outside of the United States, where investors can expect stock returns to vary depending upon the governing political party and can make better investment decisions accordingly.

1. Introduction

Numerous academic studies over the past four decades have examined the effect political cycles have on stock returns in the pursuit of discovering a predictable pattern investors can both follow and, if possible exploit. Their findings have come to the general consensus that an observable pattern exists throughout a number of economies around the world, from Australia and New Zealand to the US, however this pattern varies between political systems. Studies ranging from Nordhaus (1975) to Booth and Booth (2003) found a pattern existed among stock returns that were consistent with the US political cycle. Reasons for such movement are believed to be induced by governments either increasing or restricting monetary and fiscal policy in order to bolster prosperity, and thus their re-election chances.

It is a common belief among many that markets should perform better under a right-of-centre government, as they are more likely to legislate in favour of business and are less concerned with welfare issues, with a preference toward the free market. Left-of-centre political parties tend to increase the level of inflation within economies through increased employment, and findings in both Australia and New Zealand discovered this leads to a decrease in stock returns (Anderson, Malone & Marshall, 2008; Nordhaus, 1975).

However such findings do not hold true in the US, as stocks perform better under left-of-centre Democratic Presidents than their right-of-centre Republican counterparts. This finding has been coined the presidential puzzle and has been the focus of attention for a number of academics attempting this apparent contradiction (Cahan, Malone, Powell and Wong Choti, 2005).

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Nonetheless, it would appear this only tends to hold true in the case of the US, as recent studies by Anderson et al (2008); Cahan et al (2005); and Worthington (2006) of Australian and New Zealand markets have discovered. This study will provide both descriptive and statistical analysis to examine whether there is a political cycle or election effect present in returns of New Zealand stocks. Our findings add support to their results, particularly those of Worthington (2006), that stock returns are consistently higher under New Zealand's right-of-centre National party than they are under their left-of-centre counterparts; the Labour party.

Our findings indicate that there is a significant difference in market returns between both National and Labour during their respective terms in office. This indicates the presence of a political cycle effect; however no significant findings were consistent with any form of election effect.

2. Literature Review

Academics and investors are constantly examining markets to discover anomalies among returns that deviate from their assumed fundamental underpinnings to reveal and give reason to what may appear as an arbitrage opportunity. One such anomaly which has received particular interest in the US and has growing international attention is the existence of political cycles, and presents both interesting and important findings for both academics and investors alike. There are two political effects studied within finance literature; the 'political business cycle' and the 'election effect.' The political business cycle examines the returns on stock markets during the term of a government and is often referred to as the 'presidential cycle' in the US, where the 'election effect' examines stock returns around the election date itself. Whether or not the effect is founded in rational or irrational choices made by market participants is still hotly contested, but the general consensus remains that the effect is very real, although it may differ between economies.

The majority of authors who have examined stock returns in relation to both the presidential cycle and election effect agree their findings warrant the view that politics and market returns are correlated. McCallum (1978) studied previous US administrations and found evidence that stocks showed consistent return patterns, dependent upon which year of their four terms they were serving, but did not believe this could be manipulated by the controlling power, contrary to the findings of Nordhaus (1975). Nordhaus (1975) findings suggested governments can affect the state of their economy by influencing the level of unemployment, and may do so strategically in order to gain re-election.

This behaviour is seen to be negatively associated with stock returns as it is inflationary, and therefore it is not unreasonable to assume individuals may wish to diversify their investments among a number of different instruments dependent upon the stage of the election cycle (Anderson et al, 2008; Nordhaus, 1975). Anderson et al (2008) found stocks and bonds to be more adversely affected than property in periods of higher inflation, and therefore it may be advantageous for individuals to hedge their investments dependent upon the level of unemployment.

Booth and Booth (2003) further discovered that returns differed depending upon the political party which was in power. Their study, as are the majority of studies

performed in this area, focused on the US, and discovered fixed income securities had significantly higher returns when the ruling party was Republican, where small stock excess returns were higher under Democratic administrations.

US Studies

Higher stock returns under a Democratic president in the US is suggested by Cahan et al (2005) to be a surprising finding, and one that goes against conventional wisdom. As Nordhaus (1975) explained, one would assume a right wing government would be better for business, due to their conservative approach to managing economic cycles. Chan et al (2005) refer to this apparent contradiction as the 'presidential puzzle', where real returns, particularly for small stock business, performed better under Democratic leadership.

Hensel and Ziemba (1995) suggested this may be due to Democratic governments enacting policies aimed at benefiting small business; however the differences they found between the returns of the two categories of stock were larger than one would expect. Booth and Booth (2003) found the Presidential Puzzle to only benefit small cap stocks, with no significant difference between the returns of large cap stocks during the terms of both Democratic and Republican presidents.

However, Santa-Clara and Valkanov (2003) find that large cap stocks do perform better under Democratic presidents, although their performance is not as great as that of their smaller counterparts. They discovered that large cap stocks tended to perform an average of 7% better, where small cap stocks produced returns of around 22%. Anderson et al (2008) does point out the US political system is much more complex than those in other parts of the world, as the ruling party may not be able to pass major laws or reforms if they do not control the senate. However, this has been given little consideration by many studies and thus the decoding of the presidential puzzle could benefit from some further investigation.

Studies conducted in the US have consistently shown stock returns exhibit a presidential cycle during the four years of a president's term regardless of whether they are a Democratic or Republican (Allvine & O'Neil, 1980: Booth & Booth 2003: Forester & Schmitz, 1997: Jensen, Mercer and Johnson, 1996: Nordhaus, 1975: Stovall, 1992). This presidential cycle, where stock returns perform significantly better during the last two years of a president's term than they do during the first two years, has been noted by numerous studies.

Jensen, et al (1996) found a general consensus among those in the financial community that this is in part due to the re-election hopes of the incumbent party, who tend to stimulate the economy through the use of both monetary and fiscal policy. However, as Worthington (2006) points out, this 'pork-barrelling' by politicians to gain re-election has predominantly been studied in the US and therefore any such recommendations may not be applicable to investors in foreign markets.

Forester and Schmitz (1997) studied the effect US election cycles have on international stock returns and found some interesting observations around international stock returns. Their study showed that stock returns from eighteen OECD countries between the years of 1957 and 1996 appeared to follow a pattern

consistent with the US presidential cycle, thus indicating the effect of the political cycle may affect more than just the US economy. In their study of eighteen countries they were able to conclude that US presidential cycles are important when determining international stock market risk premiums.

Market Efficiency

As noted earlier, there is a general consensus among the financial community that governments have the ability to affect stock returns through the use of both monetary and fiscal policy (Booth & Booth, 2003; Jensen et al, 1996). However debate still continues as to whether such moves produce more predictable markets or whether this tends to lead to inefficiencies within the market. Jacobsen (1999) discovered around 50% of traders tended to act irrationally in 10% of the trades they made, causing stock prices to exceed their fundamental values around 10% of the time.

Bialkowski, Gottschalk and Wisniewski (2008) found investors were often shocked by election results, even when they were almost certain they knew who the winner would be, thus presenting some opportunities for arbitrage around election effects. Jacobsen (1999) stated any irrational trading was found to be relatively insignificant, often less than 1% of total returns, and believed any arbitrage present within the market will be exploited by rational investors. Thus such inefficiencies should only occur in the short run and any inefficiency that may occur around election effects will be relatively small.

As the majority of studies examine the long run, presidential effect, investors are assumed to be able to base their investment decisions around the year in which they are in the presidential cycle (Ferri, 2008). Jensen et al (1996) and Fama and French (1989) found that, by examining the term premium, default premium and dividend yield, both stocks and bonds exhibit a rational variation in returns, offering no opportunities for arbitrage. Furthermore, McCallum (1978) believes any attempt on behalf of a government to influence an economy through monetary or fiscal policy will be anticipated by companies and investors and their effects will therefore be negated.

Australasian cases

Although the bulk of research into political cycles focuses its attention on the US, a number of recent articles have surfaced examining the role governments play in the returns experienced in their country's capital markets in Australasian countries. Cahan et al (2005) contrasts the findings of US studies to their own study of the New Zealand market and found stock returns to be higher under the right-of-centre National party. This is contrary to findings in the US where stock returns did vary under different governments; however stocks perform better under their left-of-centre Democratic party. This finding is not exclusive to just Cahan et al (2005), but was also discovered by Worthington (2006), and Anderson et al (2008). Nordhaus (1975) and Anderson et al (2008) argue that markets perform better under a right wing government. This is true in the cases of New Zealand and Australia, and is believed to be due to left wing governments introducing policies that boost employment, of which inflation is a natural consequence.

Higher levels of employment lead to higher levels of inflation and is reflected in significantly lower returns (Nordhaus, 1975). Under a National government in New Zealand, and their equivalent in Australia, the Liberal party, returns between 1931 and 2006 were 10.18% and 11.95% per annum respectively, where their labour counterparts only managed to produce 6.60% and 4.49% per annum (Cahan et al, 2005). This finding reaffirms those of Anderson et al (2008) and Worthington (2006) that stock performance differs among political parties, and therefore one may wish to base their investment decisions accordingly.

Risk, Volatility and implications for investors

From the reasons highlighted above, it would appear advantageous for investors to construct and hedge their portfolios based upon the political cycle (Ferri, 2008). However as Allvine and O'Neill (1980) noted, if investors wish to try and exploit any perceived short term imperfections around an election they may not be compensated for the level of risk they expose themselves to. Bialkowski et al (2008) found investors who are risk adverse are the only investors compensated by an adequate premium around election times, and suggest that all investors would be better suited if they were to diversify their investments internationally.

It is therefore likely investors will gain from above average returns if they were to split or alter their investment across a number of different investment types (Anderson et al, 2008). Few such findings have been presented in studies throughout Australasia as their focus has been focused around a long run presidential effect. There is therefore more room for studies examining election effects outside of the US, however due to the differing political structures results are unlikely to be as profound (Bialkowski et al, 2008).

New Zealand's Political System

New Zealand's political system finds its roots in the mid nineteenth century with the first parliament established in 1852 under instruction from the United Kingdom. It has undergone a number of changes since its inception, and has often been a world leader (for example, NZ was the first country to grant the right for women to vote). More recently, Parliament voted to move from the traditional 'first past the post' (FPP) system to a mixed member parliament, commonly referred to as MMP. Since being passed in 1993, elections from 1996 to current have no longer only had to gain a majority of seats in order to become the governing power. The system was designed to offer a more representative cross section of the New Zealand public; however its effectiveness is still debated.

The MMP system now allows parties to form coalitions among one another, often resulting in numerous parties aligning to form the ruling government, where the old FPP system only required one party to gain an outright majority. New Zealand has two main political parties; the right-of-centre National Party and the left-of-centre Labour party. The National party was formed in 1936 through the combination of the rural based Reform party and city based Liberal party, and is founded on conservative values. The New Zealand Labour party was formed in 1916 and is a socially liberal party who finds their traditional support in the working class. There

are also a number of smaller parties that form the rest of the New Zealand parliament whose views range from the far right to the far left.

The New Zealand political system has a single parliament chamber (the House of Representatives) which decides over both the capital raising and spending of the nation and the passing of new law and legislation. Each elected government can only serve a maximum of three years per term, although there is no limit to the number of terms they may serve. This is different to that of the US, where a president may only serve a maximum of two terms.

New Zealand is a constitutional monarchy, however the governor general is little more than a figure head and the Prime Minister controls the day to day running of the country. This differs from both Australia and the US. Australia possesses a two house system with both a House of Representatives and a senate, however as explained by Anderson et al (2008) only the House of Representatives can pass bills pertaining to taxation and spending. The US has an even more complex system with a president, congress and a senate, all of which may not necessarily be from the same side of the political spectrum.

3. Data and Methodology

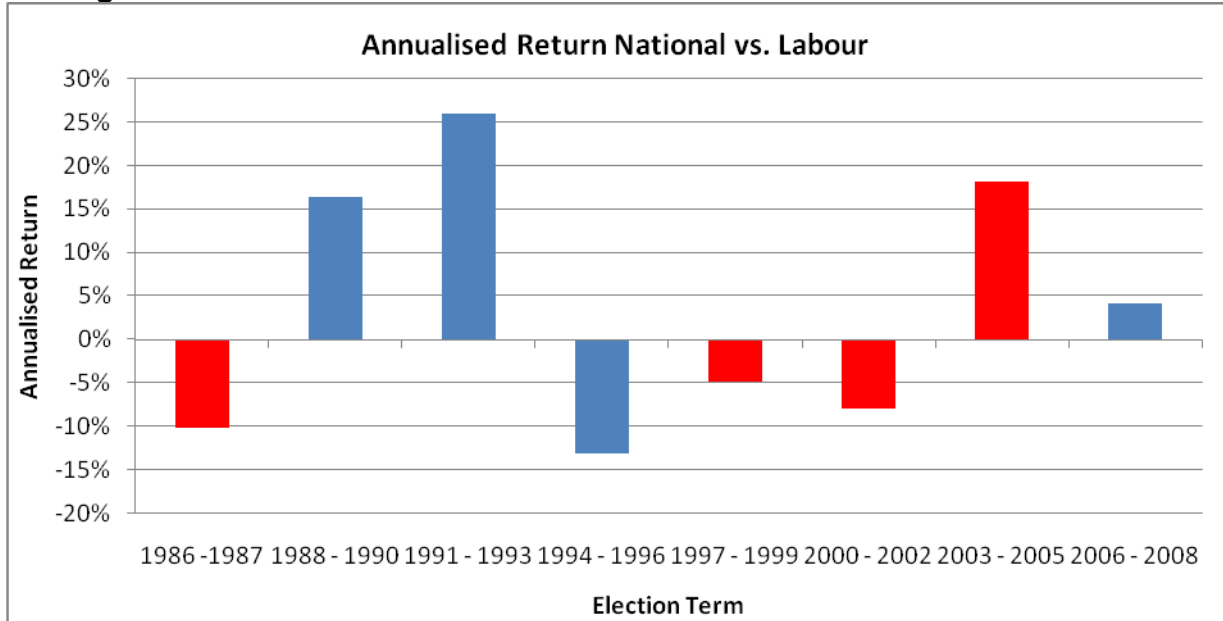
The data used for this analysis are closing prices of the NZX50 index from 1 July 1986 - 31 August 2009. This data was obtained from the NZX deep archive and represents the longest period that there were available data for, giving 5186 observations to analyse. The NZX50 index comprises the top 50 stocks by free float market capitalisation (NZX, 2009). Daily nominal returns are calculated where $R_t^n = 100 \ln(P_t/P_{t-1})$, where P_t is the index level on day t . This gives the percentage return for every day based on closing prices.

Table 1: New Zealand Governments 1987-2008

Election Date	Elected Party	Prime Minister	Annualised Return (%)
15 August 1987	Labour	Lange/Palmer/Moore	-10.09
27 October 1990	National	Jim Bolger 1	16.30
6 November 1993	National	Jim Bolger 2	25.88
12 October 1996	National	Jim Bolger/ Jenny Shipley	-13.11
27 November 1999	Labour	Helen Clark 1	-4.88
27 July 2002	Labour	Helen Clark 2	-7.94
17 September 2005	Labour	Helen Clark 3	18.09
8 November 2008	National	John Key	4.12

Table 1 above gives the annualised nominal returns for each government from 1987-2008. It can be seen from this table that the Labour party was in government from 1987-1990 and 1999-2008, while the National party was in government from 1990-2000, and from 2009 onwards. It can be seen from this table that Labour has lower absolute returns, and that they are less varied over time. National, however, has higher absolute returns than a Labour government. Thus it can be seen that there appears to be a political cycle affect on market returns (as illustrated in Figure 1 below).

Figure 1: Annualised Returns under National and Labour Governments



It is from this observation that a political cycle variable is specified. Following Worthington (2006), Anderson et al (2008), Cahan et al (2005) and Booth & Booth (2003), any political cycle evident in the sample will be picked up by a dummy variable which takes the value of one when the National party is in government and zero otherwise. This will enable us to see statistically whether returns are higher under a National government than a Labour government.

The second political variable that is specified will measure the effect of the election on market returns. This will take the form of two dummy variables, and follows the method of Worthington (2006). One of these, B_t , will take a value of one for the 20 trading days before the election and a value of zero otherwise. The other, A_t , will take a value of one for the 20 trading days after the election and a value of zero otherwise.

Also, in order to control for economic conditions, a continuous variable will be included. This will be quarterly chain volume series GDP, obtained from DX time. This chain volume series is expressed in 1995-96 prices rather than index values so it shows the relative size of each component (Statistics New Zealand).

The approach used to analyse any effects that political cycles and elections have is regression-based where the above variables will be regressed against daily nominal returns:

$$R_t = \alpha_t + \beta_1 B_t + \beta_2 A_t + \beta_3 N_t + \beta_4 GDP + e_t$$

Where R_t is the nominal Monday to Friday market return at time t , B_t is a dummy variable that equals one for the 20 trading days before the election and zero otherwise, A_t is a dummy variable that equals one for the 20 trading days after the election and zero otherwise, N_t is a dummy variable that equals one if the National party is in government and zero when the Labour party is in government, and GDP is

a continuous variable which controls for economic conditions. Variables which will be estimated by the regression are coefficients β_i and α_t .

The first null hypothesis that is tested is:

$$H_0: \beta_3 = 0$$

against the alternative that $\beta_3 \neq 0$. If this first null hypothesis is rejected, then returns are higher under a National government than under a Labour government, and there is evidence of a political cycle.

The second null hypothesis that is tested is:

$$H_0: \beta_1 = \beta_2$$

against the alternative that $\beta_1 \neq \beta_2$. If this second null hypothesis is rejected, then the market returns exhibit an election effect, and returns are different before/after an election.

First, all 5186 observations are regressed together to test these hypotheses, then each election is regressed individually using a reduced version of the above regression equation:

$$R_t = \alpha_t + \beta_2 A_t + e_t$$

In regressing the 40 day period around each election (20 days before and 20 days after) we are able to test the null hypothesis that:

$$H_0: \beta_2 = 0$$

against the alternative that $\beta_2 \neq 0$. If this null hypothesis is rejected then there is a difference between returns for the 20 day period before the election and the 20 day period after the election. This would indicate that there is an election effect.

4. Results and Discussion

Table 3 below presents the results of the regression:

$$R_t = \alpha_t + \beta_1 B_t + \beta_2 A_t + \beta_3 N_t + \beta_4 GDP + e_t$$

Regression 1 measures just the election effects and excludes the political cycle dummy. It can be seen that difference in returns before and after the election is 0.043%, indicating that returns are higher before the election than after the election. This is consistent with the findings of (Worthington, 2008) who believe stock returns experience higher returns in the lead up to elections due to improved economic activity as governments try to increase their re-election chances through monetary and fiscal policy. Since this result is not statistically significant it offers no concrete evidence of an election effect. However, it may warrant further investigation.

Regression 2 measures only the existence of political cycle effects and excludes the election effect variables. It can be seen that returns are 0.0481% higher under a National government than a labour government, and this result is significant at the 1% level. This finding is in line with other studies performed both within New Zealand

and Australia. Worthington (2006) reported similar findings and called for more research to be performed outside of the US to support his findings. Both Anderson et al (2008) and Cahan et al (2005) discovered stock returns were higher under right-of-centre governments. Anderson et al (2008) believed this to be down to the fundamental values with which both right and left leaning governments were founded. As left-of-centre governments focus attention on reducing unemployment, they tend to increase inflation and this reduces the real returns on stocks.

This study only examines New Zealand stock returns, but gives support to the common held belief among those in the finance industry that right leaning governments are better for business (Nordhaus, 1975). It also supports Cahan et al (2005) in their finding that the presidential puzzle does not translate directly into other democratic countries as one might expect, making it unique to the US. Anderson et al (2008), however, make it clear that more emphasis may need to be focused on the makeup of the US political system as the house of congress has a great deal of power outside of the government when it comes to the passing of major laws and regulation, making their political system more complex than New Zealand's.

As discussed further by Anderson et al (2008), New Zealand has perhaps one of the least complex political systems of those studied with its single governing and legislative power. This has the potential for the governing power to be able to greater affect and manipulate economic conditions than may be possible in Australia, and particularly the US with their two house systems.

Table 3: Regressions measuring election effects and political cycles from 1986-2009

Regression		Variable				
		Before election	After election	National	GDP	Constant
1	Coefficient	0.0560 (0.0776)	0.0146 (0.0776)		0.0000006 (0.0000026)	0.0177 (0.0131)
	p-value	0.4705	0.8513		0.8055	0.1757
2	Coefficient			0.0481 (0.0256)	0.0000004 (0.0000003)	-0.0009 (0.02)
	p-value			0.0609 *	1.2140	0.9562
3	Coefficient	0.0585 (0.0776)	0.0113 (0.0776)	0.0483 (0.0257)	0.0000 (0.0000)	-0.0030 (0.02)
	p-value	0.4509	0.8841	0.0597 *	0.2329	0.8624

Regression 3 measures both the election effects and the political cycle. It can be seen that this regression yields the same results as when each effect is measured separately. Therefore, the null hypothesis that there is no political cycle evident in market returns can be rejected. Also, the alternative hypothesis that there is a difference between returns before and after an election can be rejected, as β_1 & β_2 are not statistically different from zero. This supports the findings of McCallum (1978), who found weak support for any election effect as governments may attempt to manipulate returns around election times. However, he noted that any such move is quickly priced into the market as it is assumed both firms and investors will anticipate such a move and counter it. As Ferri (2008) discovered, there may be an

election effect under rare circumstances, however the market attempts to incorporate winning candidates into prices before elections occur.

Table 4 below presents the results of the regression:

$$R_t = \alpha_t + \beta_2 A_t + e_t$$

It can be seen that the only year in which there is evidence of an election effect is 2002, where the market return is 0.4922% higher after the election than before the election. This result is significant at the 5% level. In all other elections that were tested in this study, there is no statistically significant difference in returns before or after an election. Therefore, the null hypothesis that there is no difference between returns cannot be rejected, and there is no statistically significant evidence of an election effect. This is consistent with the findings of Worthington (2006) who found limited support for an election effect in their study of New Zealand stock returns. Furthermore, when they adjusted their returns from nominal returns to real returns the effect weakened. Conversely, Ferri (2008) studied both the day directly before and after the 2004 US presidential election and found significant abnormal returns in ten of the forty-nine measured indexes that exceeded the 95th quartile. It must be stressed that this is only one observed finding where the election outcome was a surprise. It was assumed the market had already priced the losing candidate into stock prices at its closing the previous day, and therefore had to readjust to the surprise outcome.

Table 4: Regressions measuring election effects for each election separately

		Regression						
Variable		1987	1990	1993	1999	2002	2005	2008
After election	Coefficient	-0.2081 (0.2382)	-0.2242 (0.5151)	-0.5251 (0.5411)	0.0927 (0.2366)	0.4922 (0.2210)	-0.2685 (0.1719)	0.1464 (0.6529)
	p-value	0.3880	0.6659	0.3380	0.6973	0.0319 **	0.1266	0.8238
Constant	Coefficient	0.5199 (0.1685)	-0.1264 (0.3643)	0.3924 (0.3826)	0.1456 (0.1673)	-0.2671 (0.1562)	0.1450 (0.1216)	-0.2996 (0.4617)
	p-value	0.0038 ***	0.7305	0.3116	0.3895	0.0955 *	0.2404	0.5203

5. Conclusions

The findings of this study conclude that there is no evidence of an election effect in the New Zealand stock market, but that a political cycle exists. Nominal returns on the market index are found to be 0.048% higher when the National party is in government compared to when the Labour party is in government. Worthington (2006) reported similar findings and called for more research to be performed outside of the US to support his findings. Both Anderson et al (2008) and Cahan et al (2005) discovered stock returns were higher under right-of-centre governments.

The existence of an election effect was tested in two ways. First, the entire sample was regressed together, and it was found that returns were not significantly higher or lower during the election period than any other time of year. Each election was also regressed separately, with the result that the only year in which there is evidence of an election effect is 2002, where the market return is 0.4922% higher after the election than before the election. This result was significant at the 5% level. All other

election periods that were tested in this study showed no statistically significant difference in returns before or after an election. Therefore, the null hypothesis that there is no difference between returns cannot be rejected, and there is no statistically significant evidence of an election effect. This is consistent with the findings of Worthington (2006) who found limited support for an election effect in their study of New Zealand stock returns.

That there is no evidence of an election effect also supports the findings of McCallum (1978), who found weak support as governments may attempt to manipulate returns around election times. However, he noted that any such move is quickly priced into the market as it is assumed both firms and investors will anticipate such a move and counter it. As Ferri (2008) discovered, there may be an election effect under rare circumstances, however the market attempts to incorporate winning candidates into prices before elections occur.

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